

# Massive scalp myiasis with bleeding in a patient with multiple malignancies

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## ABSTRACT

Most cases of myiasis in association with cancer are reported in patients with squamous cell carcinoma of the head and neck region. They are not emergencies. We report a case of massive myiasis of the scalp with bleeding in a patient with an ulcerated squamous cell carcinoma of the scalp, haematological and colorectal malignancies. Treatment of myiasis is based on local disinfection and mechanical removal of larvae. Other options of treatment are discussed.

**Key words:** Bleeding • Haematologic malignancies • Myiasis • Squamous cell carcinoma • Treatment

Myiasis is the infestation of the living mammalian (human) body with dipterous larvae. It is most common in subtropical and tropical areas of the world. In Europe, myiasis is rather uncommon except for homeless people with chronic wounds and travellers returning from trips to subtropical or tropical countries.

Flies deposit their eggs, which hatch into larvae that might infiltrate the tissue and destroy it and live from. Obligate necrophages such as *Lucilia sericata*, which is common in Germany, live from necrotic tissue only (1).

In recent years myiasis has been occasionally observed as a complication of cancer, in particular head and neck cancer (2–7).

## CASE REPORT

We observed an 89-year-old male patient in reduced general health status brought to the Emergency Department with a bleeding large ulcer on his scalp. He had a history of

colon cancer treated by surgery with an anus preter (now in remission) and Binet stage B chronic lymphocytic leukaemia (CLL) that was treated with bendamustine monotherapy. He suffered from chronic drug-induced anaemia and thrombopenia that needed repeated transfusion. The last chemotherapy was performed 10 days ago. He had an antibiotic prophylaxis with amphotericin B oral solution and sulfamethoxazole/trimetoprim p.o. He suffered from a larger cutaneous squamous cell carcinoma of the scalp region, but refused treatment of this malignancy. His mental status was not impaired. He lived with a very good social and financial background in his own flat supported by an ambulatory nursing service.

After removal of the wound dressing, we found a large ulcerated squamous cell carcinoma infested with more than a hundred maggots identified as *L. sericata* (Figure 1A).

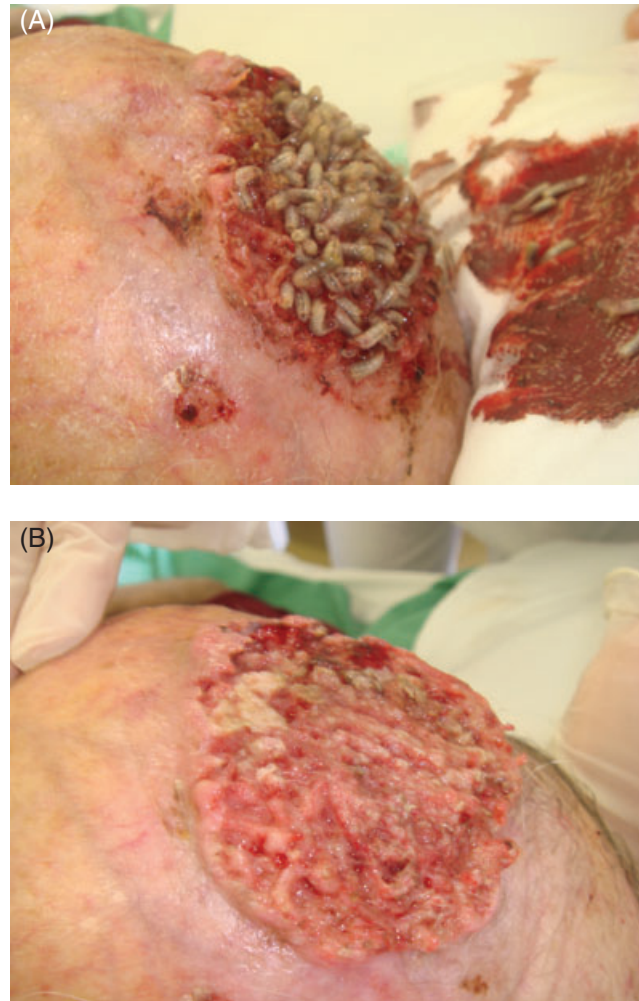
Laboratory investigations: leukocytes 36.4 Gpt/l (normal range: 3.8–11.0), neutrophils 5.2% (35–75), erythrocytes 2.5 Tpt/l (4.6–6.2); haemoglobin 4.6 nmol/l (8.6–12.1), thrombocytes 35.0 Gpt/l (120–240), C-reactive protein 25.6 mg/l (<5.0)

We used irrigation by octenidine dihydrochloride (Octenisept®; Schülke & Mayr),

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**Figure 1.** Myiasis of the scalp. (A) Initial presentation of a large ulcerated and bleeding (see dressing) squamous cell carcinoma with more than 100 larvae. (B) After cleansing of the wound.

and removed maggots mechanically (Figure 1B). The wound was covered with activated polyacrylate superabsorber dressing (Tenderwet®) in combination with octenisept solution. Bleeding stopped spontaneously. No large leaking vessel could be found. After consultation with the Haemato-Oncology Department, the patient was treated with 100 mg prednisolone i.v. and erythrocyte transfusions.

## DISCUSSION

Bleeding is a rare complication of infestation by *L. sericata*. However, preliminary studies in patients with therapeutic myiasis, that is, maggot therapy, disclosed that *L. sericata* improves microcirculation in chronic leg ulcers (8). In our case drug-induced anaemia and thrombocytopenia can be considered the major risk factors

for bleeding of the ulcerated and infested squamous cell carcinoma of the scalp (9).

Adverse drug reactions because of bendamustine are common and have been reported by 89% of CLL patients. Of these events, 58% are considered severe (grade 3 or 4). Myelosuppression, including neutropenia (28%), thrombocytopenia (23%), anaemia (19%), and leukopenia (18%), is common and may be dose-limiting. These events are more common during the first two cycles of treatment, and 20% of the patients are likely to require infusions of red blood cells (10). The present patient has got several bendamustine infusions before. He had neutropenia, anaemia and thrombopenia.

Searching Medline® for haematological malignancies and myiasis, we were surprised

about the rarity of reported cases. The reason for this is unclear. An Indian patient with primary non Hodgkins lymphoma of the paranasal sinuses suffered from rhinorobital myiasis by *Chrysomya bezziana* Villeneuve (11,12). No reports were available from Europe. The major risk factor for myiasis in our patient as in many of the reported cases from literature is tumour necrosis, that is, squamous cell carcinoma. Complications include thrombosis, infection, intracerebral invasion and even blindness when the orbita is involved (13,14).

Treatment of myiasis is not standardized. Irrigation of the maggots by a disinfectant and mechanical removal by forceps are usually sufficient. In cases of orbital myiasis oral ivermectin in conjunction with surgical debridement has been suggested (13). Complete removal of larvae is important to avoid infection and cerebral myiasis (4,15). In tropical and subtropical countries prophylactic antibiotics is sometimes used (3).

In conclusion, myiasis is a rare complication of advanced ulcerated and necrotic cancer that needs attention.

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